Reserve METOC Support to DOD/Navy Chemical, Biological, Radiological and Nuclear (CBRN) Defense

- This presentation contains the first draft of a training and implementation plan for Reserve Navy METOC support to the DoD CBRN Defense Mission

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NAVAL METEOROLOGY AND OCEANOGRAPHY COMMAND

COMNAVMETOCCO

Background: The Threat

- A variety of states and transnational organizations have or seek to acquire CBRN weapons and the means to employ them.
- CBRN weapons in the possession of hostile states and terrorists pose one of the greatest security challenges facing the United States at present.

U.S. Policy

- National Policy: Robust active and passive defense and mitigation measures must be in place to enable US military forces and appropriate civilian agencies to accomplish their missions and to assist friends and allies when WMD are used. **(Ref.: National Strategy to Combat Weapons of Mass Destruction, White House, Dec 2002)**
- Navy Policy: Consistent with National policy and strategy, the Navy shall maintain CBRN Defense capability required to support deterrence, enhance conventional warfighting, and defend Navy assets from attack by terrorists and hostile states…. The goal is to ensure that the use or threat of use of chemical weapons, biological weapons, or radiological contamination against a naval force will be a non-decisive factor in the outcome of an operation. **(Ref.: OPNAVINST 3400.10G, Feb 2002 Draft)**

Current Operations

- The Defense Threat Reduction Agency (DTRA) is tasked to provide CBRN dispersion predictions to the Department of Defense, USNORTHCOM's Joint Force Headquarters-Homeland Security (JFHQ-HLS) and the Joint Task Force – Civil Support (JTF-CS).

- As of February 2004, DTRA has commenced full 24/7 CBRN modeling support from its Operations Center near Ft Belvoir, VA

- Although the DTRA Operations Center 24/7 watch teams include skilled HPAC operators and have CBRN weapons experts and METOC experts on call for technical reachback, the standing watch teams lack METOC knowledge and experience to quality control

Current Operations (cont.)

- JFC HQs and Navy numbered fleet staffs have NBC cells that interface with DTRA and provide information to their Commanders. NBC Cells and JFACCs require on-scene expertise, to include the impact of forecasted atmospheric conditions on various warfighting scenarios. In the case of CBRN warfare, this expertise is not available within existing Joint METOC operations.

- Note: Commander Fleet Forces Command has validated the WMD defense capability within METOC and has approved all 40 billets that CNMOC requested.

CBRN Focus Requirements Summary

- Clearance Required: Secret

- Prerequisites: CBRN Training Track (under development)
  - Minimums:
    - METOC Forecasting and Assessment for WMD Events Workshop
    - 1-2 DTRA Courses
    - 7412 NEC
- Justification: operational support to Sea Power 21, specifically Sea Strike (Expeditionary Strike Groups), Sea Shield, Sea Basing, Forcenet
- Commitment: minimum 3 years, due to training requirements

What unique skills does Navy METOC bring to U.S. / Global CBRN Defense?

- Strong expertise in coastal and maritime weather forecasting

  - Note: the majority of the U.S. population is clustered in coastal areas, especially within coastal metropolitan areas (Boston to New York, Baltimore to the Tidewater area, Miami region, L.A., San Francisco, Seattle, etc.)

- Extensive experience in running specialized maritime atmospheric and oceanographic models

- Unique combination of meteorology expertise and military training in maritime, coastal and port operations and defense

- Established global METOC operations centers with

Proposed Reserve METOC CBRN Defense Focus Mission

- Within the Sea Shield concept, develop a special cadre of METOC Reservists skilled in both coastal / boundary layer weather including mesoscale modeling and basic CBRN agent dispersion modeling / DTRA operational support.
- Prepare these 'CBRN focus'-trained METOC Reservists for potential deployment to augment Fleet meteorologists when CBRN threat levels dictate.
- These special METOC Officers and Senior Enlisted, thoroughly familiar with DTRA CBRN support procedures, will be able to effectively expedite and assist with CBRN defense planning and consequence management response efforts.
- Watchstanding within the DTRA Operations Center will keep these selected METOC Reservists updated on evolving CBRN defense technologies and simultaneously provide critical METOC 'QC' to DTRA's CBRN model runs.

Backup slides

Potential Mission Evaluation Schedule

The project milestones are delineated below. Preliminary completion dates have been established f

Target Completion Date	Major Milestone	May 2004 Assessment
	Customer Needs Analysis	
Mar-04	Identify Reserve METOC Skill Requirements	Completed
Jun-04	Identify Reservist CBRN Expertise requirements	On track
Jul-04	Identify Critical Manning Requirements / Events	On track
Jul-04	Test Application of METOC Personnel (at DTRA)	On track
Sep-04	Reserve Personnel Identification / Inventory	On track
Sep-04	Develop Project Metrics	On track
Oct-04	Presentation to CNMOC for Implementation Decision	On track
Dec-04	Develop Long Term Active Duty Support Strategy	Not started
Mar-05	Review / Update Reserve Manning & Training	Not started
Oct-05	Revisit/ Refine Long Term Active Duty Support Strategy	Not started

Reserve Personnel Recruitment Plan

- Search nationwide NMORA and Surface-side databases and select skilled and motivated personnel, especially experienced forecasters knowledgeable about mesoscale models

- Priority will be given to individuals living within the Northern Virginia, Maryland, Washington DC region who can "commute" to DTRA

- Seeking five to ten advanced Reserve AG personnel to fill "CBRN METOC Forecaster" positions:
  - Initially augment DTRA Operations Center watch teams during non-critical periods to become familiar with watch routine, DTRA HPAC operations
  - After completion of qualification requirements, augment DTRA Operations Center watch during selected critical support periods (Large crowd sporting events (Olympics, Super Bowls, etc.) political events (Inauguration Events, Political Party Conventions, etc.)

Targeted Personnel Acquisition & Training Plan

5 personnel In "Transition"	5 personnel in "Training"	5 personnel "Watch Qualified"

METOC Forecasting and Assessment for WMD Events Workshop (MFA4WMD)

CIN: TBD
COURSE LENGTH: 4 Days
TRAINER: NMOPDD LANT/PAC
CLEARANCE: SECRET

PREREQUISITES: None.

PURPOSE: To give military members (Reserve or Active Duty) a basic understanding of CBRNE agents, weaponization, delivery, dispersion effects and the METOC procedures and tools for forecasting and assessing the impact on operations.

Hazard Prediction and Assessment Capability (HPAC) 4.0 Basic Course

CIN: TBD
COURSE LENGTH: 4 Days
TRAINER: Defense Threat Reduction Agency (DTRA)
CLEARANCE: SECRET

PREREQUISITES: Fundamental Computer Skills, Pre-training Questionnaire

PURPOSE: Introduces the inputs, processes, and outputs used within HPAC including capabilities and limitations, weather, and incident editors. It also describes standard weapon agents, hazard terminology and human effects for chemical, biological, nuclear and radiological sources, as well as weather. It provides scenarios and step-by-step operations to create hazard footprints and analysis of the hazard event.

Hazard Prediction and Assessment Capability (HPAC) 4.0 Advanced Course

CIN: TBD
COURSE LENGTH: 4 Days
TRAINER: Defense Threat Reduction Agency (DTRA)
CLEARANCE: SECRET

PREREQUISITES: HPAC 4.0 Basic Course, Advanced Skills Assessment Test

PURPOSE: Contains a brief review of HPAC basic course and builds a more technical skill set. It offers a detailed understanding of creating, analyzing, and briefing HPAC hazard scenarios. This course integrates HPAC output with other software programs and highlights output analysis.

Consequence Assessment Tool Set (CATS) – Joint Assessment of Catastrophic Events (JACE) Basic Course

CIN: TBD
COURSE LENGTH: 3 Days
TRAINER: Defense Threat Reduction Agency (DTRA)
CLEARANCE: SECRET

PREREQUISITES: HPAC 4.0 Basic Course

PURPOSE: Introduces software that combines all of the PC-based capabilities associated with CATS with the web-based capabilities associated with JACE. It illustrates a comprehensive package of hazard prediction models, casualty and damage assessment tools, and population and infrastructure data for many applications. The class also instructs on the geographical information system (GIS) and the wide range of geo-referenced materials that CATS-JACE can use.

Joint Senior Leaders' Course – A Focus on Chemical, Biological, Radiological and Nuclear Defense and Response

CIN: TBD
COURSE LENGTH: 3 days
TRAINER: The Army Chemical School, Ft Leonard Wood, MO
CLEARANCE: SECRET

PREREQUISITES: O4 and above, E8-E9.

PURPOSE: This course was designed to familiarize leaders about CBRN defense. JSLC provides them with a solid foundation of knowledge at the operational and strategic levels while emphasizing Joint CB defense fundamentals and doctrine. This course also provides the opportunity for interaction and information exchange between CBRN defense and response experts from the Services, Joint Staff, DoD, and other agencies. Attendees participate in live toxic agent training at the Chemical Defense Training facility and both 'Red' and 'Blue' wargame planning cells.

METOC Support for Chemical, Biological, Radiological, and Nuclear Effects (CBRNE)

CIN: TBD
COURSE LENGTH: 2 Days
TRAINER: NMOPDD LANT/PAC
CLEARANCE: SECRET

PREREQUISITES: None.

PURPOSE: The Meteorology and Oceanography (METOC) CBRNE course covers the fundamentals of Chemical, Biological, Radiological, Nuclear, and High Explosive Weapons of Mass Destruction (WMD) events. Focus is placed on the METOC and terrain influences on materials during and after release, and the latest Tactical Decision Aids (TDA's) used to support this area of concern.

Critical Requirements of CBRN Dispersion Models

- Accurate source terms (what, when, how much, height of dispersion) from Intelligence and detection sensors

- Accurate topographic representation of each area of interest

- Accurate, high resolution gridded environmental forecasts (winds, humidity, temperature, pressure, etc.)